ABSTRACT OF THE DISCLOSURE

A control chip for updating firmware in an optical disk drive by hardware. The control chip includes a microprocessor for controlling actions of the optical disk drive, a decoder controlled by the microprocessor and connected to an external buffer memory and a host interface, a controller controlled by the microprocessor and connected to the decoder to receive control signals and data of the optical disk drive, an extra memory connected to the microprocessor for storing an update program routine, a DMA unit controlled by the microprocessor to read data from the external buffer memory, and a macro unit controlled by the microprocessor to receive data output from the DMA unit and to write the data into the non-volatile memory. Because the firmware is updated into the flash memory in the hardware architecture, the speed is fast and the microprocessor can execute other works while updating.